



Enterprise Edge TSP Configuration Guide

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Introduction to Enterprise Edge TSP

The Enterprise Edge Computer Telephony Integration (CTI) range of products provides an interface between your personal computer (PC) and your Enterprise Edge system. With these products, you can use telephony applications on your Windows[®] computer to control your Enterprise Edge telephone.

One of the basic software components of Enterprise Edge CTI is Enterprise Edge TSP. Enterprise Edge TSP works with Microsoft[®] TAPI and Windows[®] NT to allow your telephony application to communicate with and control your Enterprise Edge telephone.

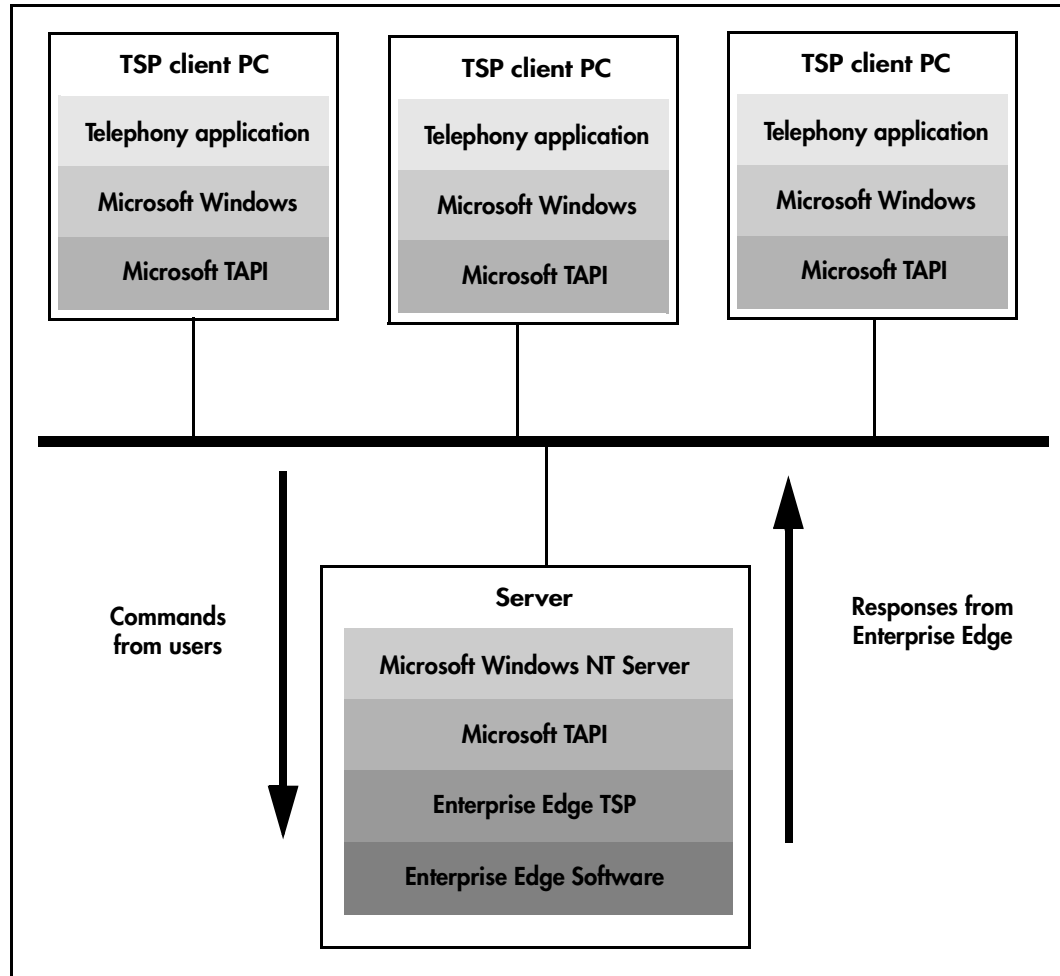
How does Enterprise Edge TSP work?

Enterprise Edge TSP works with three other software components, each providing a different function. The four software components are:

- **Telephony application**
Telephony applications are installed on client PCs. Enterprise Edge TSP users run telephony applications to control their Enterprise Edge telephone. With these applications, Enterprise Edge TSP users give commands (such as answer telephone) to the Enterprise Edge system. The telephony application also displays messages (such as telephone ringing) received from Enterprise Edge system. An example of a telephony application is Enterprise Edge Personal Call Manager.
- **Windows operating system**
Windows is installed on the Server and the client PCs. Windows passes commands from the telephony application to TAPI and messages from TAPI to the telephony application.
- **Microsoft Telephony Application Programming Interface (TAPI)**
TAPI is installed on the Enterprise Edge Server and the client PCs. TAPI converts industry standard commands received from Windows into a format that Enterprise Edge TSP can understand. It also converts messages from Enterprise Edge TSP into an industry standard format and gives them to Windows.
- **Enterprise Edge TSP**
Enterprise Edge TSP is installed on the Enterprise Edge Server as a Windows NT service. Enterprise Edge TSP receives commands from TAPI and converts them into a format that is understood by the Enterprise Edge system. It also receives messages from the Enterprise Edge system and converts them into a format that is understood by TAPI.

The figure [Enterprise Edge TSP overview](#) shows how messages and commands are passed between the client PCs and the Enterprise Edge system.

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Enterprise Edge TSP overview**Operating system requirements**

The Enterprise Edge server (Server) uses Windows NT Server 4.0 and Microsoft TAPI 2.1.

You must also install Microsoft TAPI 2.1 on all of the client PCs. If you do not have TAPI 2.1 installed, refer to [Installing Microsoft TAPI 2.1 on client PCs](#) on page 18 for instructions on how to install TAPI 2.1.

Installing Enterprise Edge TSP on the Server

To use the Enterprise Edge TSP server functionality, you must install and configure applications on the Server and then on the client PCs.

Server installation overview

1. Set up the Server as a member server in a domain.
For more information, refer to [Setting up the Server as a member server in a domain](#) on page 7.
2. Set up a TAPI domain account with administration privileges on the member server.
For more information, refer to [Assigning the TAPI ADMIN user account administration privileges](#) on page 8.
3. Configure TAPI on the Server.
For more information, refer to [Configuring TAPI on the Server](#) on page 10.
4. Configure Enterprise Edge TSP on the Server.
For more information, refer to [Adding Enterprise Edge TSP clients to the Server](#) on page 12.
5. Reboot the Server.

Setting up the Server as a member server in a domain

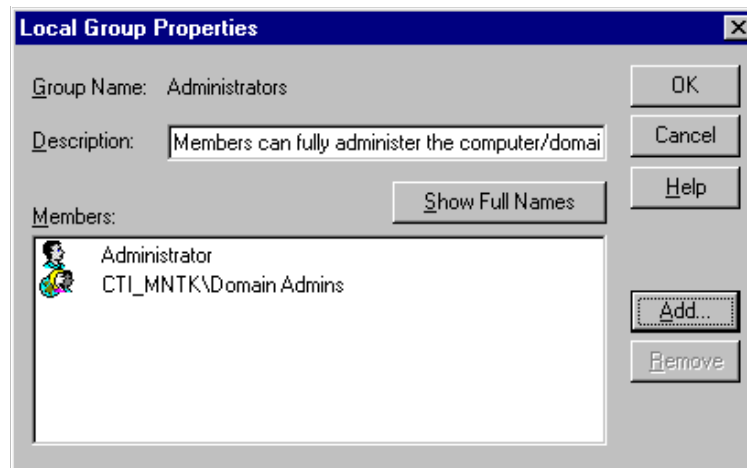
To setup the Server as a member server:

1. If your Server is a stand-alone server, ask your network administrator to add your stand-alone server to the domain. This changes your stand-alone server into a member server.
2. Open the Network Control Panel on the Server and assign the domain name that the Server appears in. To open the Network Control Panel, you must use the Virtual Network Computing (VNC) application. For information about using VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
3. Ask your network administrator to add a TAPI_ADMIN domain-account to the domain. This TAPI_ADMIN domain-account is a user account you use to start and administer telephony services (TCMSETUP) on the member server.
Note: Any domain user account can be added to the member server's local administrator group and used to start the TCMSETUP application. However, it is recommended that the account be unique to Enterprise Edge TSP administration.
4. Ask your Network Administrator to ensure all of the TAPI users are in the same domain as the TAPI domain-account.

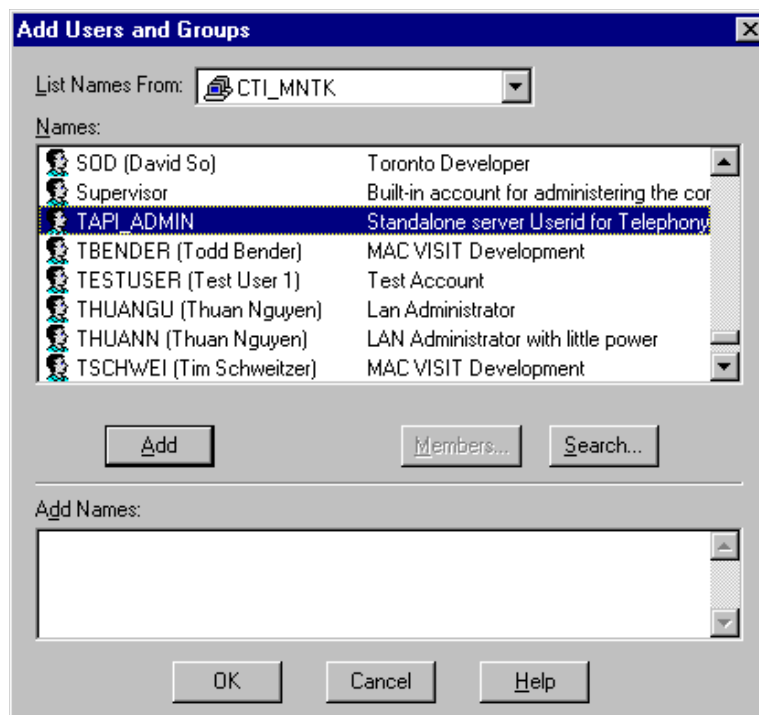
Assigning the TAPI_ADMIN user account administration privileges

Use the TAPI_ADMIN user account for all TAPI administration tasks. To assign user account administration privileges for this account:

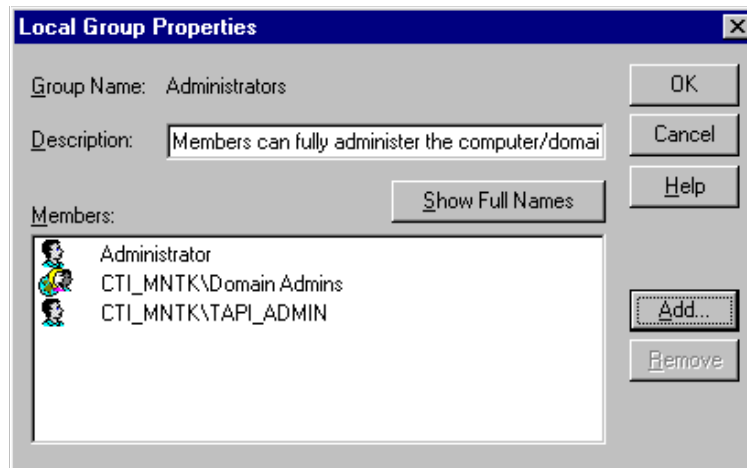
1. Access the User Manager on your local PC.
2. Click the **User** menu and then click **Select Domain**.
3. Type the name of the TAPI server and click the **OK** button.
4. Double click **Administrators** at the bottom of the screen.
The Local Group Properties dialog box appears.



5. Click the **Add** button.
The Add Users and Groups dialog box appears.



6. Click the TAPI domain-account created by your Network Administrator.
7. Click the **Add** button.
8. Click the **OK** button.
The domain user TAPI_ADMIN is added as a member of the member-server local admin group.



9. Click the **OK** button.
10. Log off the Server.

Installing Enterprise Edge TSP

Enterprise Edge TSP is installed on the Enterprise Edge server at the factory.

You do not have to install Enterprise Edge TSP on the client PCs because they use the Enterprise Edge TSP installed on the Server.

Configuring TAPI on the Server

You must configure Microsoft TAPI Server on the Enterprise Edge Server before network users can use it to access Enterprise Edge TSP. Configure TAPI Server using the Telephony Control Manager software.

The Telephony Control Manager (TCM) software is made by Microsoft Corporation. This software consists of two applications: TCMSETUP and TCMAPP. Use TCMSETUP to setup and enable/disable telephony services for the client and the server. Use TCMAPP on the server to configure the associations between Enterprise Edge telephones and Windows domain user accounts.

Note: Ensure that Enterprise Edge TSP is installed, configured, and running before setting up TCMAPP.

To configure the Server you must:

- enable the TAPI Server
- add Enterprise Edge TSP clients to TAPI Server
- assign telephones to Enterprise Edge TSP clients

Enabling the TAPI Server

TAPI Server must be enabled before Enterprise Edge TSP clients can connect.

To enable the TAPI server:

1. Start VNC and access the Server desktop.
For information about how to set up and use VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
2. On the Server, click the **Start** button and then click **Run**.
The Run dialog box appears.
3. Enter **TCMSETUP /s Domain\AdminAcct password**.
Note: In this step, **/s Domain\AdminAcct password** is an example where:
/s is a switch meaning Server.
Domain is the domain of which the TAPI server is a member.
AdminAcct is the TAPI domain-account with local administrative privileges.
Password is the password for the TAPI domain-account.

For example, **tcmsetup /s CTI_MNTK\TAPI_ADMIN admin**

4. Click the **OK** button.
A message appears confirming that the TAPI server has been enabled.
 5. Click the **OK** button.
 6. Quit VNC.
- Note:** You can access a help screen for the TCMSETUP by entering **TCMSETUP** with no parameters.

Disabling the TAPI server

To disable the TAPI server:

1. Start VNC and access the Server desktop.
For information about how to set up and use VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
2. On the Server, click the **Start** button and then click **Run**.
The Run dialog box appears.
3. Enter **TCMSETUP /S /D**.
4. Click the **OK** button.
A message appears confirming that the TAPI server is disabled.
5. Click the **OK** button.
6. Quit VNC.

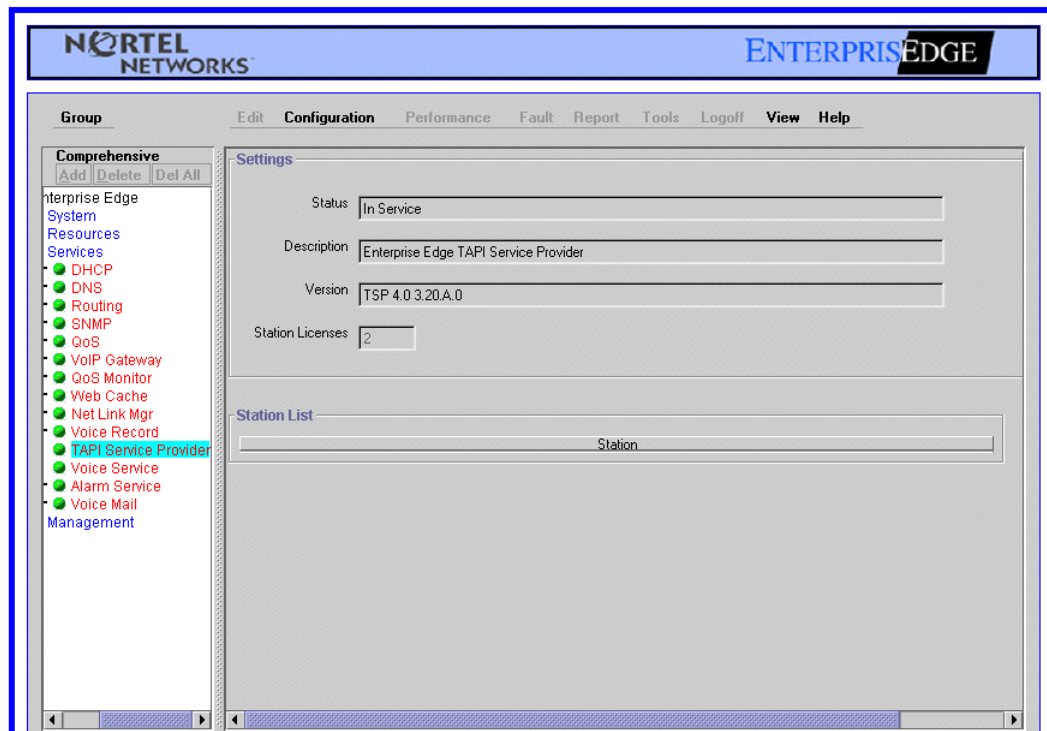
Adding Enterprise Edge TSP clients to the Server

You need to register each Enterprise Edge TSP client with the Server. Only clients registered with the Server will be allowed to use Enterprise Edge TSP.

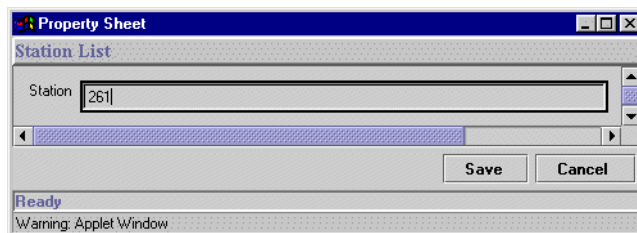
To register an Enterprise Edge TSP client, add the extension number of the clients's telephone to the list of extensions registered with TAPI Server.

To add an Enterprise Edge TSP client:

1. Open Enterprise Edge Unified Manager.
2. Click the key symbol beside **Service** and then click **TAPI Service Provider**.



3. Click the **Configuration** menu and then click **Add Station to List**.



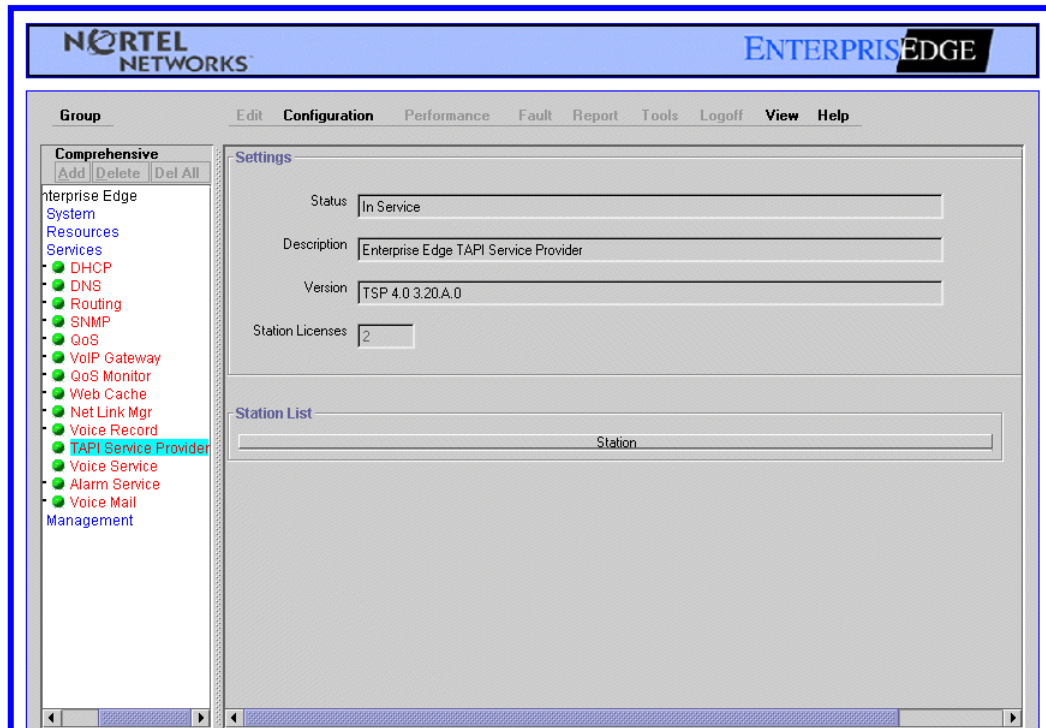
4. Double click the **Station** box and then type the extension number of the client you want to add.
Make sure you add valid extension numbers only. Adding an invalid extension number causes Enterprise Edge TSP to function incorrectly.
5. Click the **Save** button.

6. Repeat steps 3 to 5 for each Enterprise Edge TSP client you want to add.
7. When you are finished adding clients, quit Enterprise Edge Unified Manager.

Removing Enterprise Edge TSP clients

If there is an Enterprise Edge TSP client that no longer uses Enterprise Edge TSP, you can delete that client. To delete a Enterprise Edge TSP client:

1. Open Enterprise Edge Unified Manager.
2. Click the key symbol beside **Service** and then click **TAPI Service Provider**.



3. Click the extension number you want to delete.
4. Click the **Configuration** menu and then click **Remove Station from List**.
5. Click the **Yes** button to confirm deleting the client.
6. Repeat steps 3 to 5 for each Enterprise Edge TSP client you want to delete.
7. When you are finished adding clients, quit Enterprise Edge Unified Manager.

Assigning a telephone to a Enterprise Edge TSP client

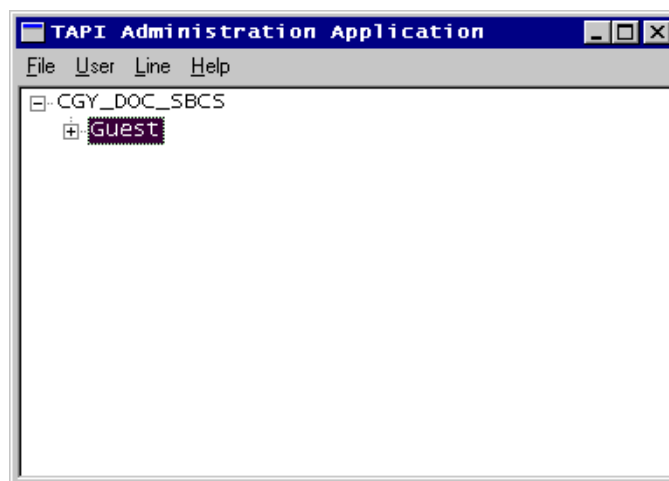
For each Enterprise Edge TSP client, you must assign an extension number to their network user ID. The Server uses this information to make sure the correct telephone is controlled by a Enterprise Edge TSP client.

You add the extension numbers using the TSP User Configuration dialog box. You assign the extension numbers to the network user IDs using the TCMAPP utility. This utility is made by Microsoft Corporation. For additional information about using the TCMAPP utility, refer to the documentation that came with the Windows NT Server operating system.

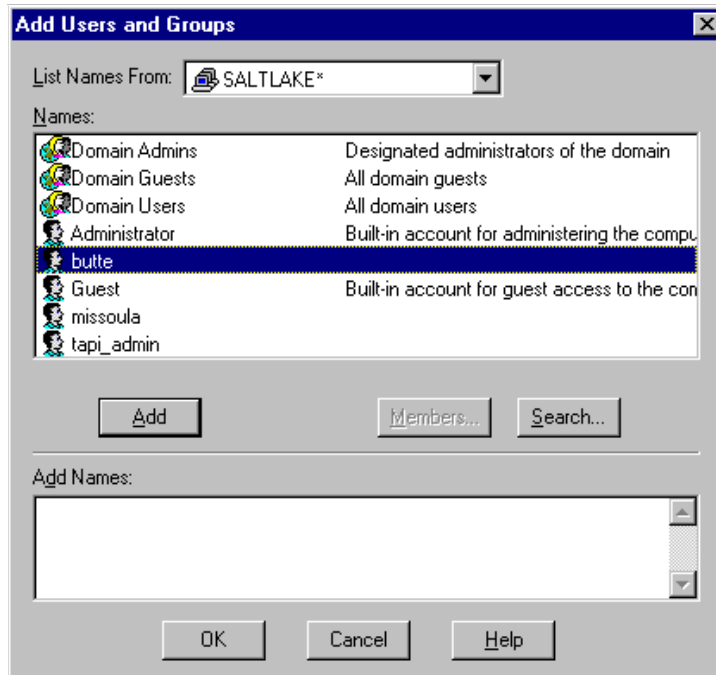
Tip: Although an Enterprise Edge TSP client can log on from any computer on the network, the extension number associated with that client does not change unless you change it in the TCMAPP utility. This allows Enterprise Edge TSP clients to receive TAPI messages for their telephone from any computer they log on to. This also means that the TAPI messages Enterprise Edge TSP clients receive are always for the telephone assigned to them, not necessarily the telephone beside the computer they are using.

To assign a telephone to an Enterprise Edge TSP client

1. Start VNC and access the Server desktop.
For information about how to set up and use VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
2. On the Enterprise Edge TSP Server, click the **Start** button and then click **Run**.
3. Type **TCMAPP** and then click **OK**.
The TAPI Administration Application window appears.



- Click the **User** menu and then click **Add a User to this Telephony Server**. The Add Users and Groups dialog box appears.



- Click the user domain account you want to add.
- Click the **Add** button.
- Repeat steps 4 and 5 for all of the user domain accounts (Enterprise Edge TSP clients) you want to add.
- Click the **OK** button.

After you add all of the Enterprise Edge TSP clients, assign lines to these clients. For information about assigning lines, refer to [To assign lines to the Enterprise Edge TSP clients](#).

To assign lines to the Enterprise Edge TSP clients

- Ensure the **TAPI Administration Application** window is open.
- Double click the domain tree to expand it.
- Click the user domain account you want to change.
- Click the **User** menu and then click **Change Selected User's Line Access**. The Change Line Device Access for Selected User dialog box appears.
- Click the line or lines you want to add to the user domain account and then click the **OK** button.
The line or lines you selected appear under the Client's name in the window.
- Repeat steps 3 to 5 for each Enterprise Edge TSP client that needs lines assigned.
- Click the **File** menu and then click **Exit**.

8. Click the **Yes** button to save the information.
9. Restart the Server.

Tips for the assigning lines

Blank lines that appear in the TAPI line device list on the Change Line Device Access for Selected User dialog box indicate errors on devices specified in the TSP User Configuration dialog box. These errors include:

- an invalid extension number was specified
- an out-of-service extension number was specified
- an extension number entered is in use by another application (such as Enterprise Edge Voice Messaging or Enterprise Edge Call Center)

Within TCMAPP, the extension numbers specified in the TSP User Configuration dialog box are processed in numerical order. When TCMAPP encounters an invalid extension number, a blank line appears and TCMAPP continues processing. When TCMAPP encounters out-of-service and in-use extension numbers, TCMAPP stops processing and no information is displayed for the remaining lines. These blank lines are placed at the top of the list.

Lines with problems can be determined by re-verifying the numbers or dialing the numbers from a telephone.

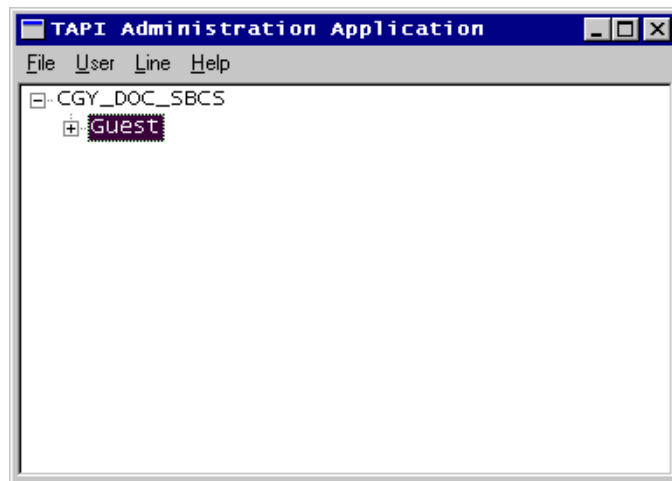
To correct blank lines due to invalid extension numbers or out-of-service conditions, delete those lines from the TSP User Configuration dialog box. After you restart the Server, these blank lines disappear.

To correct blank lines due to the in-use-by-another-application, wait for a while, then re-enter the TCMAPP application. After TCMAPP identifies a device, it will not cause further disruption to the installation.

Deleting a line from a client

To delete a line from a client:

1. Start VNC and access the Server desktop.
For information about how to set up and use VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
2. On the Enterprise Edge TSP Server, click the **Start** button and then click **Run**.
3. Type **TCMAPP** and then click **OK**.
The TAPI Administration Application window appears.



4. Click the Enterprise Edge TSP client.
5. Click the line to delete.
6. Click the **Line** menu and then click **Remove Selected Line**.
7. Repeat steps 3 to 5 for each line you want to delete.
8. Click the **File** menu and then click **Exit**.
9. Click the **Yes** button to save the information.
10. Restart the Server.

Installing Enterprise Edge TSP on client PCs

To use Enterprise Edge TSP from a client PC, you must install and configure applications on the client PCs.

Client installation overview

You must do the following steps on each client PC that uses Enterprise Edge TSP.

1. Install Microsoft TAPI 2.1 on the client PCs.
For more information, refer [Installing Microsoft TAPI 2.1 on client PCs](#) on page 18.
2. Configure TAPI Client on the client PCs.
For more information, refer to [Configuring TAPI on a client PC](#) on page 19.

Installing Microsoft TAPI 2.1 on client PCs

Microsoft TAPI 2.1 and its installation program are made by Microsoft Corporation.

You must install Microsoft TAPI 2.1 on each of the client PCs. TAPI 2.1 allows the client PCs and the Server to communicate.

Note: The Microsoft TAPI 2.1 information in this guide is a supplement to the *Microsoft TAPI Readme.txt* file provided with the Microsoft TAPI 2.1 Upgrade. Be sure to read the *Microsoft TAPI Readme.txt* file and install TAPI 2.1 according those instructions.

Installing TAPI 2.1 on Windows NT 4.0 Workstation

To install Microsoft TAPI 2.1 on Windows NT 4.0 Workstation PCs, use Windows NT 4.0 Service Pack 4 or later. Service Pack 4 automatically adds TAPI 2.1 to Windows NT Workstation. You must install Windows NT 4.0 Service Pack 4 or later before you configure the TAPI client.

Important: TAPI 2.1 must be installed on Windows NT Workstation using the Service Pack 4 or later. Service Pack 4 contains additional improvements to the Windows NT Workstation telephony component that are required for Enterprise Edge TSP.

Windows NT 4.0 Service Pack 4 is available on the Microsoft web site.

To install Service Pack 4, follow the instructions in the *Readme.txt* file included with Service Pack 4.

Installing TAPI 2.1 on Windows 95

Microsoft TAPI 2.1 is available on the Microsoft web site.

Be sure to read the *Readme.txt* file and the license agreement included with the upgrade before installing.

Installing TAPI 2.1 on Windows 98

You do not need to install TAPI 2.1 on Windows 98 PCs. TAPI 2.1 is included with Windows 98.

Installing the TCP/IP protocol on the client PC

The TCP/IP protocol must be installed on the client PCs. Refer to your Windows documentation for instructions on how to install the TCP/IP protocol.

Configuring TAPI on a client PC

You must configure each client PC to work with the Enterprise Edge TSP server. To configure the client PC you must:

- configure the network settings
- register with the Enterprise Edge TSP server
- set the dialing properties
- restart the client PC

Configuring the network settings on the client PC

For the client PC to communicate with the Server, there are three network settings required.

The client PC must be in the same domain as the Server.

The client PCs can only be logged in to one domain at any one time. Remove the client PCs from any prior domains before proceeding with setting up the client.

Tip: The client PC can be in a different domain if there is an appropriate trust relationship established between the two domains.

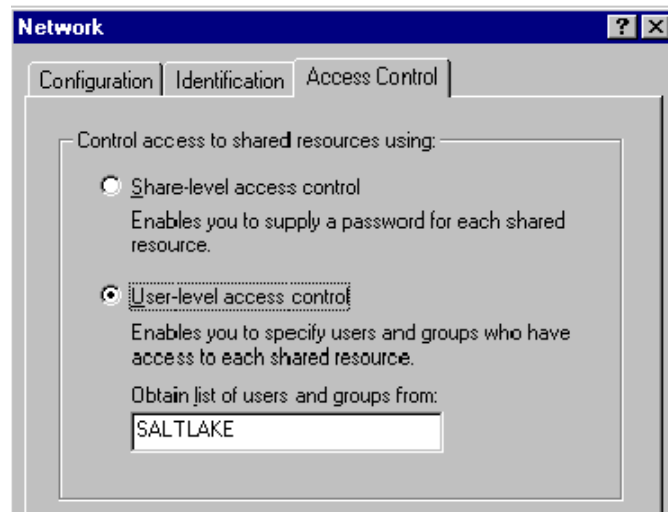
The Access Control must be set to User level.

On Windows 95 client machines, you must set access control to user level.

To set the Access Control on the client PC:

1. On the client PC, click the **Start** button, point to **Settings** and then click **Control Panel**.
2. Double click the **Network** icon.

3. Click the **Access Control** tab.



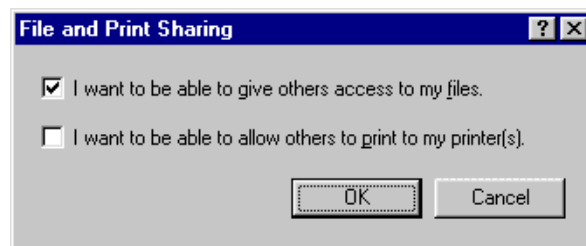
4. Select the **User-level access control** option.
5. Ensure the correct domain name is entered in the **Obtain list of users and groups from** box. In this example, SALT LAKE.
6. Click the **OK** button.

File and Print Sharing must be enabled

On Windows 95 client PCs, you must enable the File and Print Sharing.

To enable the File and Print Sharing on the client PC:

1. On the client PC, click the **Start** button, point to **Settings** and then click **Control Panel**.
2. Double click the **Network** icon.
3. Click the **File and Print Sharing** button.
The File and Print Sharing dialog box appears.



4. Select both of the **File and Print Sharing** options and then click the **OK** button.

Registering with the Enterprise Edge TSP server

A client PC must register with the Server. Registering identifies which Windows NT server the Enterprise Edge TSP client uses.

You need to register the client PC with a Server only once. The client PC continues to use the same Server, even after the client PC is restarted.

To register with the Enterprise Edge TSP server:

1. On the client PC, click the **Start** button and then click **Run**.
The Run dialog box appears.
2. Type **TCMSETUP /C servername**.

Note: In this step **servername** is used as an example. It represents the name of the Enterprise Edge TSP server the user is registering with. Contact your network administrator for the name of the Enterprise Edge TSP server.

3. Click the **OK** button.
A message appears confirming that you have registered with the Enterprise Edge TSP server.
4. Click the **OK** button.

Changing the Enterprise Edge TSP server a client uses

If there are more than one Enterprise Edge TSP server in one domain on the network, clients can change the server they use. To change the Enterprise Edge TSP server used:

1. On the client PC, click the **Start** button and click **Run**.
The Run dialog box appears.
2. Type **TCMSETUP /C servername**.

Note: In this step, **servername** is used as an example. It represents the name of the Enterprise Edge TSP server the user is registering with. Contact your network administrator for the name of the Enterprise Edge TSP server.

3. Click the **OK** button.
A message appears confirming that you have registered with the new Enterprise Edge TSP server.
4. Click the **OK** button.

Canceled registration with the Enterprise Edge TSP server

Occasionally you may need to cancel registration with the Enterprise Edge TSP server.

To cancel registration with the Enterprise Edge TSP server:

1. On the client PC, click the **Start** button and then click **Run**.
The Run dialog box appears.
2. Type **TCMSETUP /C /D**.
3. Click the **OK** button.
A message appears confirming that you have cancelled registration with the Enterprise Edge TSP server.
4. Click the **OK** button.

Restart the client PC and the server

After you have finished configuring and registering all of the client PCs, restart the Server.

After you restart the Server, restart all of the client PCs.

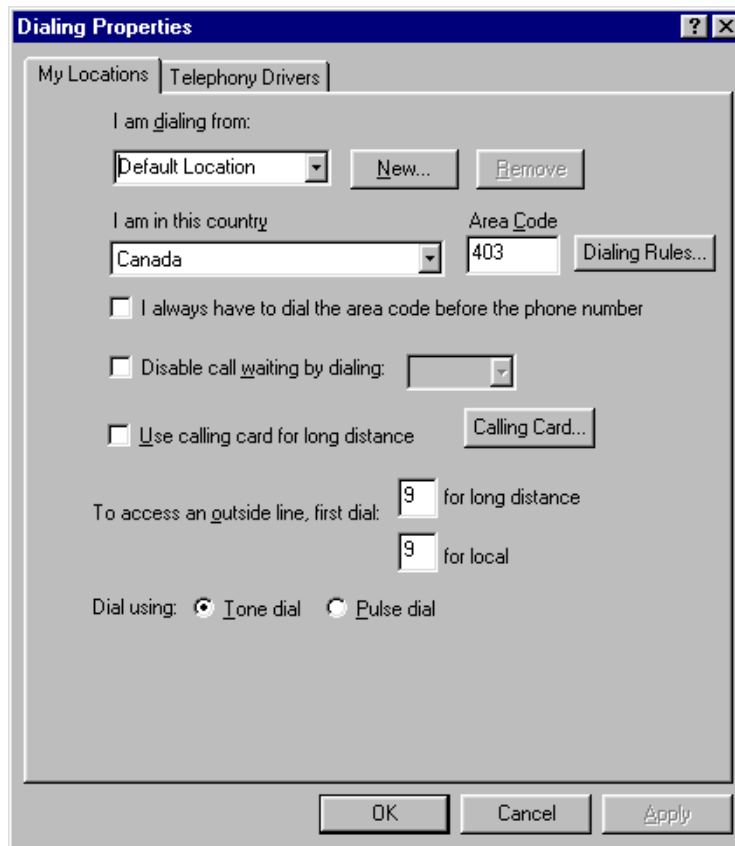
Setting the Dialing Properties

Some telephony applications use the dialling properties to define how calls are dialled. Refer to the documentation that came with the telephony application to determine if the dialling properties are required for the client PC.

The dialing properties are accessed from the Dialing Properties dialog box.
To open the Dialing Properties dialog box:

1. Click the **Start** button, point to **Settings** and then click **Control Panel**.

2. Double click the **Telephony** icon.
The Dialing Properties dialog box appears.



From the Dialing Properties dialog box you can:

- choose the location you are dialing from (**I am dialing from**)
- choose the country you are in (**I am in this country**)
- set the area code you are dialing from (**Area Code**)
- choose if you are using a calling card (**Use a calling card for long distance**)
- set the number used to disable Call Waiting (**Disable call waiting by dialing**)
- set how to access to lines (**To access an outside lines**)
- choose the type of dialing system (**Dial using**)

I am dialing from

Use the **I am dialing from** list box is used to save different sets of dialing properties. You use this list box when you have a computer (such as a lap top) that you use at different locations. The settings for the different locations are saved under different names in the **I am dialing from** list box. You can then quickly change to the new settings when you switch locations.

For example, you may have a lap top computer that you use at both the north and south locations. If the north and south locations have different dialing requirements (such as call waiting in the north but not in the south), you can set up two different sets of dialing properties in the **I am dialing from** list box. Then, when you switch locations, you can change the dialing properties by changing the name that appears in the **I am dialing from** list box.

Creating a new location

When you create a new location, you are creating the name that is used to access the new set of dialing properties. After you create the location, any changes made to Dialing Properties dialog box are saved with this name.

To create a new location:

1. Click the **New** button.
A dialog box appears confirming that a new location was created.
2. Select the text in the **I am dialing from** list box.
3. Enter the name of the new location.
4. Change the other fields on the **Dialing Properties** dialog box to match the dialing properties required for this location.
These fields are described later in this section.
5. Click the **Apply** button to store the changes with the new location.

Selecting a location

When you select a location, all of the dialing properties are changed to the settings that are stored for that location.

To select a location:

1. Click the arrow in the **I am dialing from** list box. A list of locations appears.
2. Click the location you are currently at.
The dialing properties are changed to the setting stored for this location.

Deleting a location

When you no longer need a location, you can delete it from the list of locations.

To delete a location:

1. Click the arrow in the **I am dialing from** list box. The list of locations appears.
2. Click the location you want to delete.
3. Click the **Remove** button.
A confirm deletion message appears.
4. Click the **Yes** button.

I am in this country

This field defines the country of the you are currently in.

To select a country:

1. Click the arrow in the **I am in this country** list box.
2. Scroll through the list of countries.
3. Click the country you are in.

Tip: You can scroll quickly through the list of countries by typing the first few letters of the country's name. As you type, the list moves to the country that matches the letters you type.

Area Code

The **Area Code** box defines the area code you are currently in. Enterprise Edge TSP uses the number in this box to determine if a call is a local call (to the same area code) or a long distance call.

To enter an area code:

1. Select the characters in the **Area Code** box.
2. Type the area code.

In some locations, the area code must always be added when dialing a telephone number. To make Enterprise Edge TSP include the area code, select the **I always have to dial the area code before the phone number** check box.

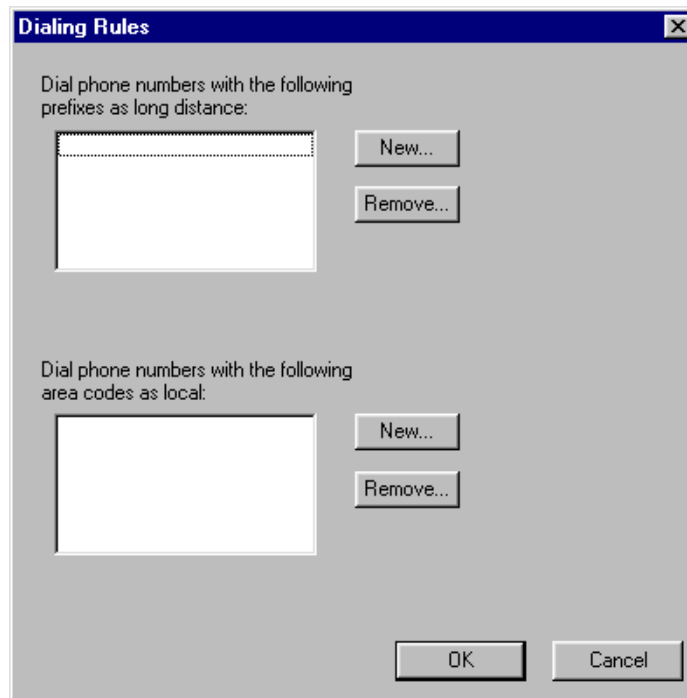
Dialing Rules

In some locations, calls within the same area code are considered long distance calls. These calls require the country code and area code (for example, 1-403) to be added to the front of the telephone number before they are dialed.

The Dialing Rules feature allows you to define the prefixes (for example, 222-xxxx) that are long distance calls in your area code.

To set the prefixes that are long distance:

1. Click the **Dialing Rules** button.
The Dialing Rules dialog box appears.



To add a prefix that is considered long distance

1. Click the **New** button located in the upper half of the dialog box.
The New Area Code and Prefix dialog box appears.
2. Type the prefix and click the **OK** button.

To delete a prefix that is considered long distance

1. Click the prefix you want to delete.
2. Click the **Remove** button.

To add a prefix that is considered local

1. Click the **New** button located in the lower half of the dialog box.
The New Area Code and Prefix dialog box appears.
2. Type the prefix and click the **OK** button.

To delete a prefix that is considered local

1. Click the prefix you want to delete.
2. Click the **Remove** button.

Use a calling card for long distance

Select this check box if you want to use a calling card for long distance telephone numbers. The **Calling Card** button lets you define which calling card you are using.

To use a calling card:

1. Select the **Use calling card for long distance** check box.
If you have previously set up a calling card, the settings for that calling card are used.
If you have not set up a calling card, refer to [Setting up a calling card](#).

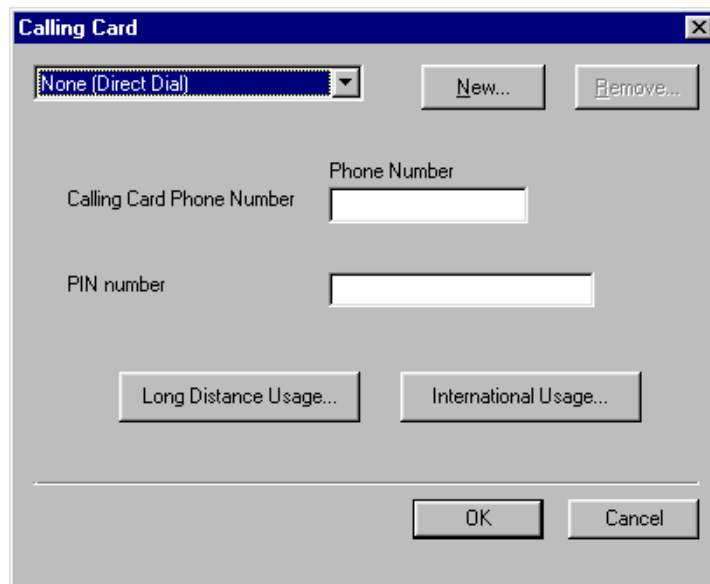
To stop using a calling card:

1. Clear the **Use calling card for long distance** check box.

Setting up a calling card

You must set up the calling card parameters before you can use a calling card. To set up a calling card:

1. Click the **Calling Card** button.
The Calling Card dialog box appears.



2. Click the list box at the top of the dialog box.
3. Scroll through the list to find the calling card you are using and then click the calling card.

Note: If the calling card you are using is not on this list, refer to [Adding a custom calling card](#).

4. Click the **Calling Card Phone Number** box and type the calling card telephone number.
5. Click the **PIN number** box and type your calling card PIN number.
6. Click the **OK** button.

Adding a custom calling card

The dialing parameters for some calling cards are already configured and appear in the list of calling cards. If the calling card you are using is not on the list of cards, you must set up how to use your calling card.

To add a custom calling card:

1. Click the **Calling Card** button.
The Calling Card dialog box appears.
2. Click the **New** button.
The Create New Calling Card dialog box appears.
3. Type the name of the calling card and click the **OK** button.
A message appears informing you that you must set up the dialing rules for the new calling card.
4. Click the **OK** button.
5. Click the **Calling Card Phone Number** box and type the calling card number.
6. Click the **PIN number** box and type your calling card PIN number.
7. Click the **Long Distance Usage** button.
A second Calling Card dialog box appears.

The screenshot shows the 'Calling Card' dialog box. It contains a section titled 'Steps to make a call' with a list of steps. Each step has a 'Dial' dropdown menu and a 'then wait for' dropdown menu. The first step is 'Dial CallingCard phone number then wait for Tone'. The second step is 'Dial PIN then wait for 2 Seconds'. The third step is 'Dial Destination Number (including area code) then wait for'. The fourth step is 'Dial then wait for'. The fifth step is 'Dial then wait for'. The sixth step is 'Dial'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

8. Click the first **Dial** list box and then click the first set of numbers to dial.
9. Click the next **Dial** list box and then click the next set of numbers to dial.

10. Repeat step 9 until you have completed all of the steps needed to make a call using your calling card.

Note: Refer to the documentation that came with your calling card for the sequence of steps that are required with your card.

11. When all of the required steps are added, click the **OK** button.
12. Click the **International Usage** button.
13. Repeat steps 8 to 11 to add the steps required to make an international call.
14. Click on the **OK** button to return to the Dialing Properties dialog box.

Disable call waiting by dialing

If call waiting is available for the current location, use this field to define the numbers required to disable call waiting. Your telephony application uses these numbers to disable call waiting when required.

To enter the numbers required to disable call waiting:

1. Select the **Disable call waiting by dialing** check box.
2. Click the arrow in the **Disable call waiting by dialing** list box and then click the appropriate disable call waiting code.
If the appropriate code does not appear on the list, click the list box and type the disable call waiting code.

To identify that call waiting is not used, clear the **Disable call waiting by dialing** check box.

To access outside lines

There are two boxes for accessing outside lines. The first box is for the digits required to access local numbers and the second box is for the digits required to access long distance lines. These access numbers are required if you are using a line pool or call routing to make calls. These numbers are the same numbers you dial if you are making an outside call from your telephone.

If you do not dial an extra number (e.g. 9) when making a call from your telephone, leave these boxes blank.

To change the outside line access numbers:

1. Select the **for long distance** box and then type the number required to access an outside line for a long distance call.
2. Select the **for local** box and then type the number required to access an outside line for a local call.

Dial using

Use these options to choose tone dialing signals or pulse dialing signals when making a call. To select pulse dialing, click the **Pulse dial** option. To select tone dialing, click the **Tone dial** option.

Viewing Enterprise Edge TSP information

After Enterprise Edge TSP is installed and configured, you can view information about Enterprise Edge TSP and how it is operating. You can view:

- information about Enterprise Edge TSP
- Enterprise Edge TSP error messages
- Enterprise Edge CTE diagnostics

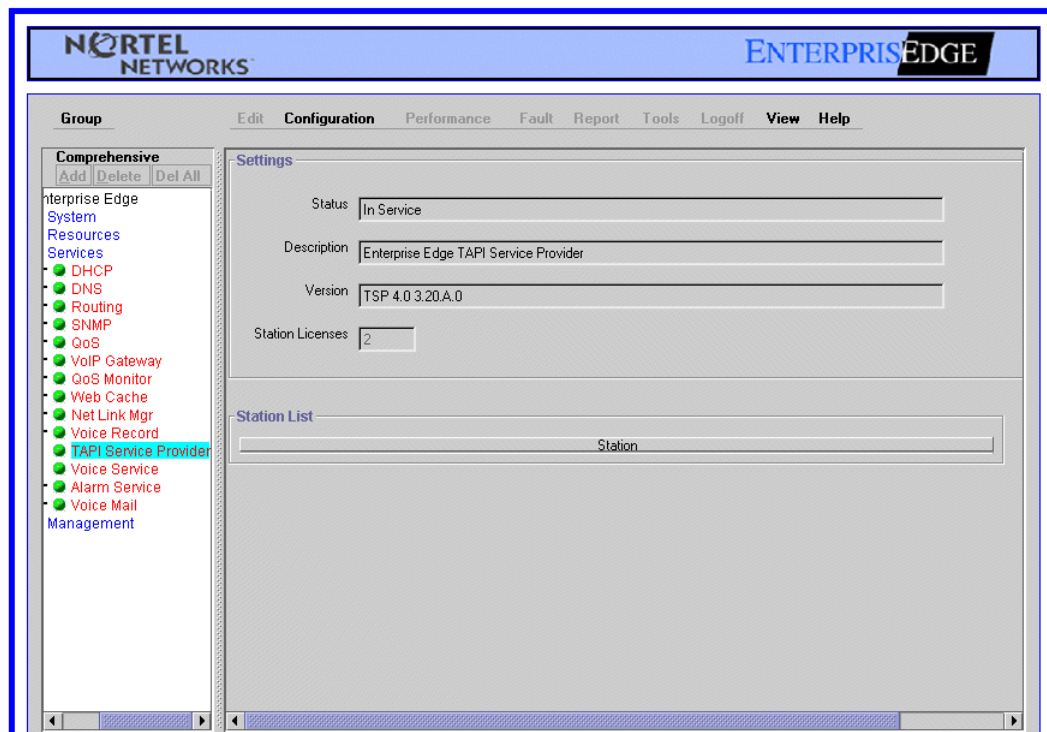
Accessing the Enterprise Edge TSP information

From the TAPI Service Provider window in Enterprise Edge Unified Manager you can:

- view the Enterprise Edge TSP version number
- view the Enterprise Edge TSP status

To access Enterprise Edge TSP information:

1. Open Enterprise Edge Unified Manager.
2. Click the key symbol beside **Service** and then click **TAPI Service Provider**.



Viewing the Enterprise Edge TSP version number

The Enterprise Edge TSP version number appears in the **Version** field. The information in this field identifies the Enterprise Edge TSP software version installed on the Server.

Viewing the Enterprise Edge TSP status

The Enterprise Edge TSP status appears in the **Status** field. This field indicates whether Enterprise Edge TSP is functioning.

In Service - Enterprise Edge TSP is functioning and can communicate with the Enterprise Edge system.

Not in Service - Enterprise Edge TSP can not communicate with the Enterprise Edge system. Typical causes for no communication are:

- the Enterprise Edge system is not operating
- the Telephony Service in Windows NT Server is not running on the Server

Enterprise Edge TSP error messages

When Enterprise Edge TSP encounters an error, an error message appears on the computer display. In this message is a description of what the error is and a recommendation about what to do.

Using the CTE Diagnostics

The CTE Diagnostics is a tool you use in conjunction with your Enterprise Edge service representative to help you track down problems with your Enterprise Edge CTI applications. These diagnostics allow you to view the CTE Diagnostics window. From this window you can:

- Choose the information you want to view
- View detailed information about Enterprise Edge TSP
- View information about the Enterprise Edge TSP software
- Save the information to a file on your computer

Tip: After certain errors, you need to restart the Server to reinitialize Enterprise Edge TSP. If a full server restart is inconvenient, try stopping and then restarting the Telephony Service in the Windows NT Services list. If restarting the Telephony Service does not reinitialize Enterprise Edge TSP, you must restart the Server.

To access the CTE Diagnostics window:

1. Start VNC and access the Server desktop.
For information about how to set up and use VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
2. Open the CTE Diagnostics window.

The CTE Diagnostics start automatically when the Server starts up. If the CTE Diagnostics are not running, use the following procedure to start the CTE Diagnostics:

1. Start VNC and access the Server desktop.
For information about how to set up and use VNC, refer to [Appendix A: Virtual Network Computing \(VNC\)](#) on page 37.
2. Click the **Start** button and then click **Run**.
3. Type **CteDiag.exe**.
4. Click the **OK** button.

Choosing the information you want to view

You can select the type of information that is displayed on the CTE Diagnostics window. You can choose:

- debugging information
- CTE events
- FUMP messages

To view debugging information:

1. Click the **View** menu and then click **Debugging Information**.
2. Click the **View** menu and then click **Refresh** to change the information that appears.

To view CTE events:

1. Click the **View** menu and then click **CTE Events**.
2. Click the **View** menu and then click **Refresh** to change the information that appears.

To view FUMP messages:

1. Click the **View** menu and then click **FUMP Messages**.
2. Click the **View** menu and then click **Refresh** to change the information that appears.

Viewing detailed information about Enterprise Edge TSP

After you have chosen the information to display, detailed technical information about Enterprise Edge TSP begins to appear on the CTE Diagnostics window.

The information on this window is intended for your Enterprise Edge service representative. Contact your Enterprise Edge service representative for assistance in interpreting the information on this window.

Viewing information about the Enterprise Edge TSP software

On the CTE Diagnostics window, you can also view the version number and location of all the components of the Enterprise Edge TSP software (the CTE modules and the Enterprise Edge TSP modules).

To view the components of the CTE modules:

1. Click the **View** menu and then point to **Software Information**.
2. Click **CTE Modules**.

To view the components of the Enterprise Edge TSP modules:

1. Click the **View** menu and then point to **Software Information**.
2. Click **Enterprise Edge TSP Modules**.

Saving the information to a file

In most instances, your Enterprise Edge service representative will ask you to send them a copy of the CTE Diagnostics window. To do this, you first need to save the information to a file. You can then send this file to your Enterprise Edge service representative.

To save the information to a file:

1. Click the **File** menu and then click **Log File**.
The CTE Diagnostics - Log File dialog box appears.
2. Enter a name for the log file and choose the directory you want to save the file in.
3. Click the **Save** button.
The Enterprise Edge TSP information is now saved in a file.
4. When you are finished saving information in the file, click the **File** menu and then click **Log File** to turn off saving the information to file.

Tip: Make sure you turn off saving information to a file when you are finished. The log file continues to grow the entire time it is on and will eventually consume a large portion of your disk.

Deleting information from the log

The CTE Diagnostics window collects information the entire time it is open. At any time you can delete the old messages and only have the current information appear. To delete the old information:

1. Click the **Edit** menu and then click **Clear Window**.
All of the information in the CTE Diagnostics window is deleted.

Exiting from the CTE Diagnostics window

To exit from the CTE Diagnostics window:

1. Click the **File** menu and then click **Exit CTE Diagnostics**.

Troubleshooting

This section describes possible problems you may encounter when using Enterprise Edge TSP. With each problem is a recommended solution.

Troubleshooting while using Enterprise Edge TSP

Normally, when Enterprise Edge TSP encounters an error, an error message appears on the display. These error messages describe the problem and recommend an action to solve the problem.

Enterprise Edge TSP stops functioning on client PCs that were previously functioning

- Check that the TAPI server is acquiring telephones correctly.

Open the TCMAPP application. For more information, refer to [Assigning a telephone to a Enterprise Edge TSP client](#) on page 14.

Check to see if the affected TAPI clients still have a telephone assigned to them.

If a TAPI client does not have a telephone device assigned, the TAPI server is not acquiring the telephones properly. This can be caused by changing the extension number of the telephone or the telephone going out of service. For information on correcting this problem, refer to [Tips for the assigning lines](#) on page 16.

- Check if the password for the TAPI administration account has changed.

If the password has changed, run the TCMSETUP command using the new password. For information on how to run this command, refer to [Enabling the TAPI Server](#) on page 11.

Enterprise Edge TSP client are not able to access their extensions when using a TAPI application

- Check all the settings on both the Server and the client PC.
- If the Server becomes unavailable, you must restart the client PCs to get their TAPI services back. Always restart the client PCs after the Server is restarted.
- Install the NetBEUI protocol on the Server and the client PCs.
- Make sure you are logged in as a domain-user with Administrative privileges (not as the server administrator) when using the TCMSETUP and TCMAPP applications on the Server. If you did log on as the server administrator, use TCMSETUP to disable the Server, log on as a domain-user with Administrative privileges and then enable the Server again.

Enterprise Edge TSP tips

Starting Enterprise Edge TSP

TAPI server starts up when any TAPI application or service is launched (for example, TSP Launcher). During start up, TAPI server acquires all of the telephones identified in the TAPI User Configuration. Acquiring the telephones runs in the background and can take as long as five seconds for each telephone. If you have a TAPI service setup to start at boot time, the Server's startup may take a number of minutes to complete. For example, if you have a Server configured with 50 telephones, initialization of TAPI server can add four minutes to the server startup time.

Appendix A: Virtual Network Computing (VNC)

You perform most of the administration for the Enterprise Edge system using Enterprise Edge Unified Manager. However, for some tasks you need to access desktop applications on the Enterprise Edge server.

VNC allows you to access desktop applications on the Enterprise Edge server from another computer on the network.

To use VNC, you need to install the VNC viewer and a telnet client on your PC.

Installing the VNC viewer

The VNC viewer is in the E:\Utils directory on the Enterprise Edge system.

Note: Only administrators can access the E:\Utils drive. This drive is shared as E\$.

To install the VNC viewer program:

1. From your computer, access the **E:\Utils** directory on the Enterprise Edge server.
2. Double click the **Vnc** directory.
3. Double click the **Install** directory.
4. Double click the **Setup** icon and then follow the instruction on the display.

Installing the telnet client

If your computer has the telnet client included with Windows (telnet.exe), you do not need to install the telnet client from the Enterprise Edge server.

The telnet client is in the E:\Utils directory on the Enterprise Edge system.

Note: Only administrators can access the E:\Utils drive. This drive is shared as E\$.

To install the telnet client program:

1. From your computer, access the **E:\Utils** directory on the Enterprise Edge system.
2. Double click the **TlntClnt** directory.
3. Copy **telnetc.exe** to your computer.

Using VNC

To use VNC you must:

- start the VNC application on the Enterprise Edge server
- access the Enterprise Edge server desktop

Starting the VNC application

To start the server application:

1. Start the telnet client on your PC.
2. Enter the host name or IP address of the Enterprise Edge server.
3. Log on using the administrator account.
4. Type **net start winvnc** and press **Enter**.

Accessing the Enterprise Edge server desktop

There are two methods to access the desktop:

- using a web browser
- using the VNC client

Using a web browser

1. Enter the host name or IP address for the Enterprise Edge server and the port number for WinVNC. The port number for WinVNC is 5800.
For example: **http://10.10.10.2:5800**.
2. Enter the password for the Enterprise Edge server.

Note: You cannot use a proxy to access the Enterprise Edge server.

Using the VNC viewer

1. On your computer, click the **Start** button, point to **Program Files**, point to **VNC**, and then click **VNC Viewer**.
2. Enter the host name and display number (0) for the Enterprise Edge server.

Note: You can enter an IP address instead of the host name. For example, 10.10.10.2:0 selects the default IP address (10.10.10.2) and the default display number (0).

3. Enter the user name and password for the Enterprise Edge server.

Client access requirements

To access the Enterprise Edge server desktop using the VNC client, your computer must use one of the following operating systems:

- Windows NT 4.0
- Windows 95
- Windows 98

To access the Enterprise Edge server desktop using the web browser, your computer must have:

- one of the following operating systems
 - Windows NT 4.0
 - Windows 95
 - Windows 98
- Java Virtual Machine (JVM) version 5.0 (build 5.0.0.3167 or greater)
- one of the following web browsers
 - Netscape Communicator 4.5 or greater
 - Internet Explorer 4.0 or greater

If you are using Netscape Communicator, you must set the following preferences:

- Advanced - Enable Java: On
- Cache - Cached document comparison: Every Time

If you are using Internet Explorer, you must set the following Internet options:

- General - Check for new versions: Every visit
- Advanced - Java JIT compiler enabled: On

Quitting VNC

When you finish accessing the Enterprise Edge server desktop, quit the VNC application that is running on the Enterprise Edge server.

To quit VNC application:

1. Start the telnet client on your PC.
2. Enter the host name or IP address of the Enterprise Edge server.
3. Log on using the administrator account.
4. Type **net stop winvnc** and press **Enter**.

Appendix B - Reinstalling the older version of Microsoft TAPI

Windows 95

If you wish to uninstall TAPI 2.1 and return to Microsoft TAPI 1.4:

1. Locate the **remtapi.inf** file.
2. Right click the correct file and then click **Install**.

Windows NT

If you wish to uninstall TAPI 2.1 and return to Microsoft TAPI 2.0:

1. Locate the **remtapin.inf** file.
2. Right click on the correct file and then click **Install**.

Note: If you use the remtapi files, you may have to copy the Telephony.cpl file back into the Windows\system directory.

Glossary

List of acronyms

CTI

Computer Telephony Integration

TAPI

Telephony Application Programming Interface

Glossary terms

Computer Telephony Integration

A set of hardware and software components that allows computers to access and control telephones.

TAPI service provider

A set of commands developed by the telephone manufacturer that interprets TAPI commands into a form that is understood by the telephone system.

Telephony Application Programming Interface (TAPI)

A set of programming tools developed by Microsoft Corporation that provides a standard set of commands used to control any telephone. For most telephone systems, a TAPI service provider is required to use TAPI.

